

A REVISION OF THE GENUS *ODMALEA* BERGROTH  
(HEMIPTERA: PENTATOMIDAE)

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*Abstract.*—Rolston, L. H., Department of Entomology, Louisiana State University, Baton Rouge, Louisiana 70803.—The genus *Odmalea* is re-described and a key provided to distinguish among the closely related genera *Brepholoxa*, *Dendrocoris*, *Odmalea*, and *Thoreyella*. *Odmalea norda* n. sp. from Venezuela and *O. vega* n. sp. from Colombia are added to the genus, the other four members are re-described, and a key is provided for the separation of the species. NEW COMBINATIONS are *Odmalea basalis* (Walker) from *Euschistus*, *Odmalea concolor* (Walker) from *Thoreyella*, and *Odmalea pallida* (Jensen-Haarup) from *Thoreyella*. NEW SYNONYMY recognized is *Thoreyella pulchra* Jensen-Haarup as a junior synonym of *Odmalea basalis* (Walker), *Odmalea quadripunctula* Bergroth and *Odmalea quadripunctula modesta* Ruckes as junior synonyms of *Odmalea concolor* (Walker), and *Odmalea olivacea* Ruckes as a junior synonym of *Thoreyella brasiliensis* Spinola.

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When Bergroth (1914) erected *Odmalea* he took care to distinguish between this genus and *Dendrocoris* Bergroth, enumerating seven characters which seemed to differentiate the two genera. Most of these apparent differences disappear into intraspecific or intrageneric variability, emphasizing the similarity of these genera. Nelson (1955) observed that *Brepholoxa* Van Duzee is much like these geminate genera, chose felicitous characters to separate the three and discussed their position in the classification of pentatomids. *Thoreyella* Spinola also belongs to this group of genera and, indeed, is less readily separated from *Odmalea* than are *Brepholoxa* and *Dendrocoris*.

All of these genera have a median ventral spine at the base of the abdomen, and in none does this spine fit into the posterior margin of the metasternum; the sterna are not produced save, at most, for a mild tumescence on each side of the mesosternum; the bucculae continue to or past the distal end of the first rostral segment, terminating as a lobe at the base of the head (Fig. 5). The pygophoral form is peculiar to these four genera and varies only in detail among species (Figs. 6 and 7). The following key separates the four genera.

Key to Genus Group

1. Ostiolar canal extending less than halfway from ostiole to lateral margin of metapleuron; second segment of antennae longer than each succeeding segment *Brepholoxa* Van Duzee

- Ostiolar canal extending more than halfway from ostiole to lateral margin of metapleuron; second segment of antennae much shorter than each succeeding segment 2
- 2. Superior surface of femora prolonged at apex as spine (Fig. 30). 3
- Femora unarmed *Dendrocoris* Bergroth
- 3. Ostiolar canal curved (Fig. 23); juga contiguous before tylus *Thoreyella* Spinola
- Ostiolar canal straight or slightly curved (Figs. 4, 15, 27, 44 and 48); juga usually separated at apex, rarely contiguous, in which case coria are decidedly bicolored, stramineous and castaneous *Odmalea* Bergroth

*Odmalea* Bergroth, 1914

*Odmalea* Bergroth, 1914, pp. 436-437

Head wider across eyes than long, lateral margins sigmoid, tapering to apex; antenniferous tubercles exposed from above; juga separated (with rare exceptions) at apex of head (Figs. 1, 24, and 45). First antennal segment not surpassing apex of head; two basal segments each much shorter than each of three distal segments. Bucculae toothed near anterior limit, prolonged as lobe at base of head, reaching to or slightly past distal end of first rostral segment (Fig. 5); apex of rostrum attaining metacoxae.

Humeral angles acutely produced; anterolateral angles strongly toothed (Figs. 2, 13, 25, 36, and 46). Anterolateral margin obtusely rounded, usually with a few small denticles widely spaced at irregular intervals.

Basal width of scutellum subequal to length; frena extending past middle. Costal angle of coria extending considerably beyond apex of scutellum (Figs. 3, 14, 26, 37, and 47).

Prosternum and metasternum flat or nearly so; mesosternum weakly tumescent behind procoxae on each side of depression along midline. Ostiolar sulcus nearly straight, extending about two-thirds distance from mesial margin of ostiole to lateral margin of metapleuron (Figs. 4, 15, 27, 44, and 48). Superior surface of femora prolonged apically as spine (Fig. 30); anterior tibiae flattened toward apex on superior surface, asymmetrically widened; middle and posterior tibiae sulcate or not.

Abdominal spine terminating between metacoxae or longer and reaching mesocoxae.

Pygophoral opening narrowing posteriorly on dorsal surface, continuing onto ventral surface (Figs. 6-7, 16-17, 28-29, 38-39 and 49-50). Lateral thecal lobes prominent to exceptionally large, thecal processes absent (Figs. 11, 21, 31, 41 and 51); penisfilum lying entirely on median vertical plane.

First gonocoxae almost or entirely concealed (Figs. 8, 22, 33 and 53). Spermathecal bulb elongate, bearing few to many diverticula or bulbous enlargement distad of distal flange (Figs. 9, 35 and 55).

*Comment.*—Bergroth (1914), in his description of the genus and of the type species, the latter under the junior synonym *O. quadripunctula*, attributed to sexual dimorphism differences between the sexes that he observed in the proportional length of antennal segments and in the relative length of the coria and scutellum. His examples apparently did not represent the variability of these proportions fairly, and his conclusion is not supported by the specimens examined in this study.

The boundary between the theca and conjunctiva is unclear in *Odmalea* species, and the division made here is therefore somewhat arbitrary. Full inflation of the conjunctiva seemed to have been attained in some specimens of *O. basalis*, and in these examples the lateral theca lobes became perceptibly more turgid. These structures therefore appear intermediate between typical thecal lobes and conjunctival appendages.

This American genus is represented by one or more species from Arizona into northern Argentina, but nowhere is any species common if collections are reliable indicators of abundance.

#### The Species of *Odmalea*

At the time Bergroth (1914) erected *Odmalea* he described *O. quadripunctula*, designating this species as the type species, and transferred *Dendrocoris schaefferi* Barber to *Odmalea*. Ruckes (1959a, b) added *O. olivacea* from Brazil and *O. quadripunctula modesta* from Panama.

Six species are recognized here. The type species is *Odmalea concolor* (Walker), transferred from *Thoreyella*. This name is a senior synonym of *O. quadripunctula* Bergroth and *O. quadripunctula modesta* Ruckes. The latter refers to a form that is not geographically limited within the species range. *O. schaefferi* (Barber) remains as a member of the genus, but *O. olivacea* Ruckes is placed in the synonymy of *Thoreyella brasiliensis*, the type species of *Thoreyella*. *Odmalea pallida* (Jensen-Haarup) is transferred from *Thoreyella* and *Odmalea basalis* (Walker) from *Euschistus*. Two new species, one from Venezuela and one from Colombia, are added to the genus. The six species are separated by the following key.

#### Key to Males of Species

1. Propleura bicolored, broad border ventrad of denticles dark, remainder of propleura much paler 3
- Propleura almost uniformly colored, pale 2
2. Parameres with digitiform production at apex only (Figs. 6 and 12). (S. Amer., Trinidad, Panama) *O. concolor* (Walker)
- Parameres with two digitiform productions, one apical and one lateral (Figs. 16, 18 and 19). (Southern S. Amer.) *O. pallida* (J-H)
3. Parameres terminating distally in simple hook (Figs. 54 and 57); pale

- area on basal half of each corium continuing as narrow percurrent costal border to costal angle of corium (Fig. 47) 5
- Parameres expanded distally (Figs. 28, 34, 38, 42 and 43); a large pale area on basal half of each corium and smaller pale area at costal angle (Figs. 26 and 37) 4
4. Parameres unilaterally expanded at apex (Fig. 34); pale areas at base and apex of each corium separated (Fig. 26). (Southern S. Amer.) *O. basalis* (Walker)
- Parameres bilaterally expanded at apex (Fig. 42); pale areas at base and apex of each corium narrowly connected along costal margin (Fig. 37) (Venezuela) *O. norda* n. sp.
5. Margin of genital cup incised directly caudad of parameres, pygophore continuing beyond this point as digitiform projection from dorsal view (Fig. 49). (Southwestern U.S., Mexico) *O. schaefferi* (Barber)
- Margin of genital cup depressed directly caudad of parameres, pygophore beyond depression knobbed (Fig. 56). (Colombia) *O. vega* n. sp.

*Odmalea concolor* (Walker, 1867) new combination

*Mormidea concolor* Walker, 1867:256-257; Lethierry and Severin, 1893:123 (listed).

*Thoreyella concolor*: Distant, 1900:421 (listed); Kirkaldy, 1909:137 (listed); Jensen-Haarup, 1931:320 (keyed).

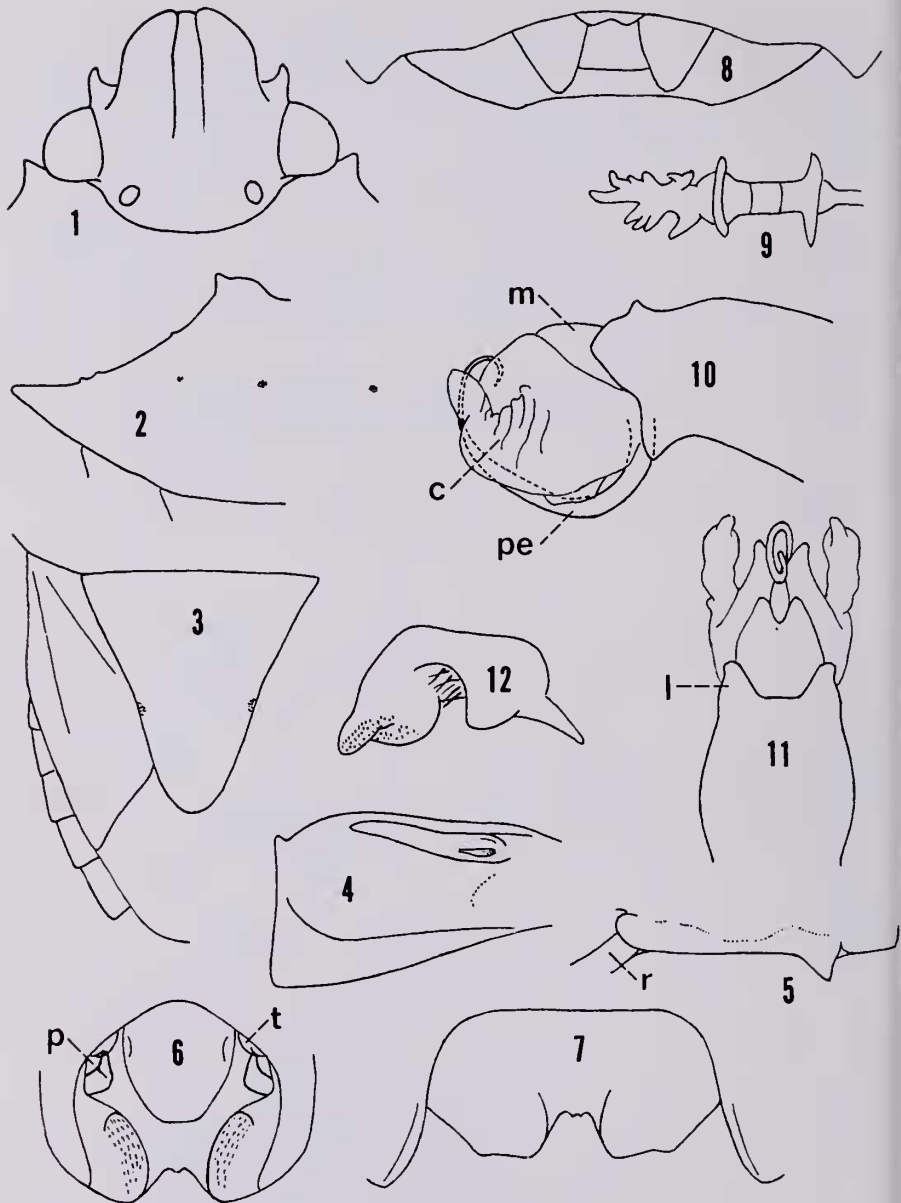
*Odmalea quadripunctula* Bergroth, 1914:437-438, 439, fig. 5 (*O. schaefferi* compared); Pirán, 1968:21 (record). NEW SYNONYMY.

*Odmalea quadripunctula modesta* Ruckes, 1959:17-18. NEW SYNONYMY.

*Odmalea quadripunctata* (sic): Buckup, 1961:12 (record).

Dull sordid yellow, green when living, with dark markings; punctation concolorous, usually excepting patch or band of dark punctures on pronotum before each corium, closer and stronger on head than generally prevailing on dorsum. Juga little or no longer than tylus, usually with castaneous to fuscous lateral border (Fig. 1). Denticles occasionally lacking on anterolateral margins of pronotum. Margins of humeral angles black. Four small dark spots on anterior disk of pronotum arranged in straight transverse line or in shallow posteriorly directed arc, these almost equidistant or middle pair farther from each other than each from nearest lateral spot; lateral or all spots rarely obscure (Fig. 2). Scutellum usually with dark marginal spot at distal end of each frenum (Fig. 3). Connexiva broadly exposed.

Postcrolateral angle of mesopleura usually bearing dark dot. Appendages



Figs. 1-12. *O. concolor*. Fig. 1. Head. Fig. 2. Pronotum. Fig. 3. Corium and scutellum. Fig. 4. Metapleuron. Fig. 5. Right buccula; second rostral segment (r). Fig. 6. Genital cup, dorsal view; paramere (p); tumescence (t). Fig. 7. Pygophore, ventral view. Fig. 8. Genital plates. Fig. 9. Distal part of spermatheca. Fig. 10. Theca and related structures, lateral view; conjunctiva (c), median penal lobe (m), penisfilum (pe). Fig. 11. Same, dorsal view; lateral thecal lobe (l). Fig. 12. Right paramere.



nearly color of body. Middle tibiae barely flattened to weakly sulcate; posterior tibiae obviously sulcate. Abdominal spine reaching between metacoxae, sometimes longer and just attaining mesocoxae.

Length of body without membranes 7.0–8.1 mm. Head 1.8–2.0 mm wide across eyes, 1.3–1.5 mm long; antennal segments 0.3–0.4; 0.3–0.6; 0.8–1.0; 0.9–1.0; 0.9–1.0 mm in length. Pronotum 5.5–7.0 mm wide at humeri, 1.9–2.3 mm long at meson. Scutellum 3.2–3.8 mm wide at base, 3.1–3.6 mm long.

Opening into genital cup narrowing posteriorly on dorsal surface, passing between broadly depressed surfaces with wide mesial border of dense setae, continuing onto ventral surface as deep concave emargination with small median tooth (Figs. 6 and 7). A finely shagreened tumescence of irregular form located anterolaterad of each paramere. Paramere deeply cupped, much expanded before apex, with transverse base (Fig. 12). Lateral thecal lobes extending posteriorly, their length subequal to distance separating them at base (Fig. 11); distal margin of theca reflexed between lateral lobes and along ventral margin (Fig. 10).

Spermathecal bulb with numerous diverticula (Fig. 9).

*Type*.—Female, in British Museum (Natural History). Type examined.

*Synonymy*.—Although the syntypes of *Odmalea quadripunctula* were not located, Bergroth's detailed description leaves little room for doubt as to the identity of the specimens. Discrepancies between his description and the specimens examined concern the color of some of the punctation, the lower range of size (6–7 vs. 7–8 mm), and the presence of two rather than four dark spots across the pronotum. The differences in coloration, size and markings noted are not inconsistent with the assumption of conspecificity in a species as variable as this one.

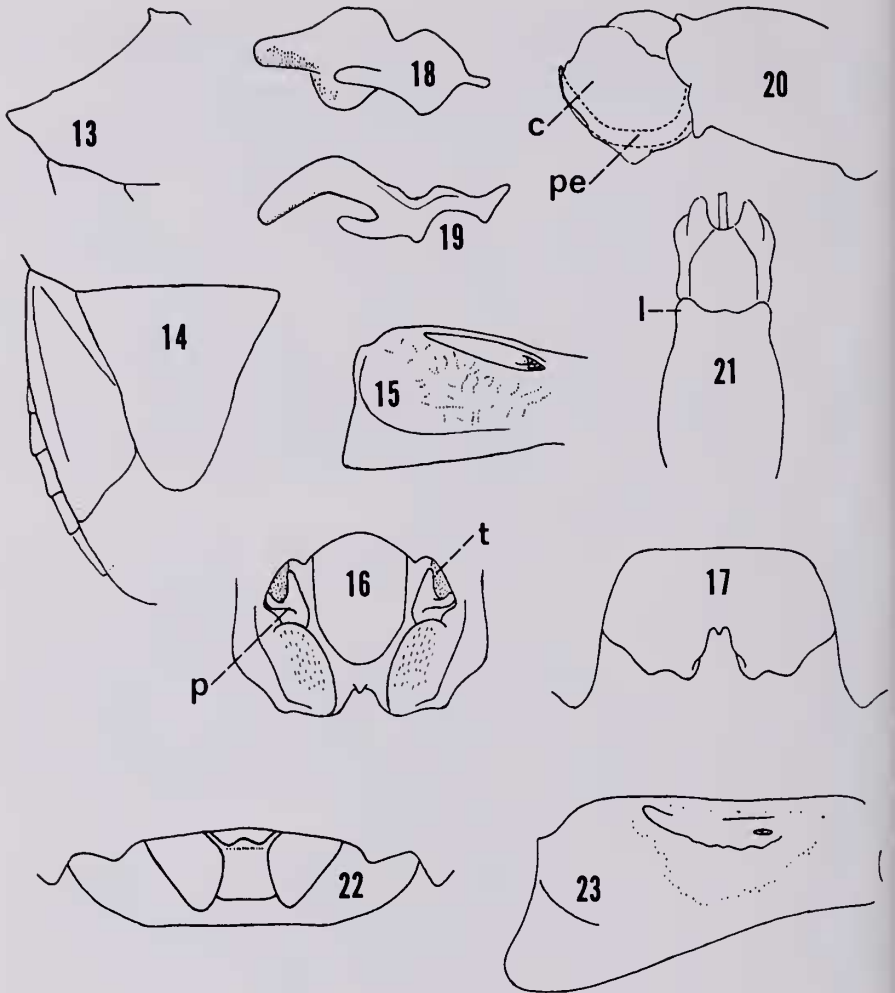
*Odmalea quadripunctula modesta*, described from Barro Colorado in the Panama Canal Zone, represents the common form of this species throughout its range except that most specimens, including those from the Panama Canal Zone, have a few denticles on the anterolateral margins of the pronotum. The type, in the American Museum of Natural History, was examined.

*Distribution*.—Specimens examined were from the Amazon region of Brazil (type locality of *Mormidea concolor*), Trinidad and Panama. Other records are from French Guiana (Bergroth, 1914), Rio Grande do Sul, Brazil (Buckup, 1961) and Rio de Janeiro, Brazil (Pirán, 1968).

*Odmalea pallida* (Jensen-Haarup, 1931) new combination

*Thoreyella pallida* Jensen-Haarup, 1931:320, 322.

Light stramineous, often pinkish dorsally on humeri and much of head excepting broad area around ocelli. Punctures concolorous or nearly so,



Figs. 13–22. *O. pallida*. Fig. 13. Pronotum. Fig. 14. Corium and scutellum. Fig. 15. Metapleuron. Fig. 16. Genital cup, dorsal view; paramere (p); tumescence (t). Fig. 17. Pygophore, ventral view. Fig. 18. Right paramere. Fig. 19. Same, rotated 90° toward observer. Fig. 20. Theca and related structures, lateral view; conjunctiva (c), penisfilum (pe). Fig. 21. Same, dorsal view; lateral thecal lobe (l). Fig. 22. Genital plates.

Fig. 23. *Thoreyella brasiliensis*, metapleuron.

sometimes those along lateral margins of head and scattered punctures on disk black; punctation on head and on pronotum before cicatrices coarser than elsewhere on dorsum. Juga slightly longer than tylus, convergent distally, each jugum narrowly rounded at apex. A submarginal line along head above antenniferous tubercles and margins of humeri black. Pro-

notum sometimes marked with transverse line of four dark spots, the inner pair farther from each other than each from nearest lateral spot. Humeral angles acute but not spinose (Fig. 13). Connexiva not or narrowly exposed (Fig. 14).

Distal half of middle tibiae flattened on superior surface; posterior tibiae flattened or weakly sulcate. Abdominal spine scarcely reaching middle of metaeoxae or longer and attaining mesoeoxae.

Length of body without membrane 6.5–7.5 mm. Head 1.5–1.8 mm wide across eyes, 1.2–1.3 mm long; antennal segments 0.3; 0.3–0.5; 0.7–0.8; 0.7; 0.8 mm long. Pronotum 4.9–6.1 mm wide at humeri, 1.6–2.0 mm long at meson. Scutellum 2.9–3.4 mm wide at base, 2.9–3.3 mm long.

Opening into genital eup trilobed anteriorly on dorsal surface, narrowing posteriorly between large flattened setose lobes, continuing onto ventral surface as deep emargination with a small mesial tooth projecting from anterior margin (Figs. 16 and 17). Digitiform apex and lateral production of parameres resting against and largely obscuring irregular tumescence on each side of genital eup; parameres much expanded distad and again basad of production located near point of articulation (Figs. 18 and 19). Lateral lobes of theca projecting posteriorly little past median lobe (Fig. 21). Distal margin of theca reflexed between lateral lobes and also along ventral margin (Fig. 20).

*Type*.—Female, in Universitetets Zoologiske Museum, Copenhagen. Type examined.

*Distribution*.—Argentina: Misiones, Formosa; Brazil: The notation following “Brazil” on the holotype appears to read “Maroim (Hygom) Benzon.” The meaning of this notation is obscure.

*Comment*.—Only four specimens of *O. pallida* were available for study, but it seems that this species varies as does *O. concolor* in the intensity and number of pronotal spots. The males of the two species are easily distinguished by the genitalia. The females are less readily separated. The humeral angles among these examples of *O. pallida* are less produced and more obtuse than is usual in *O. concolor*, and none of the specimens bore scutellar spots as most examples of *O. concolor* do.

#### *Odmalea basalis* (Walker, 1867) new combination

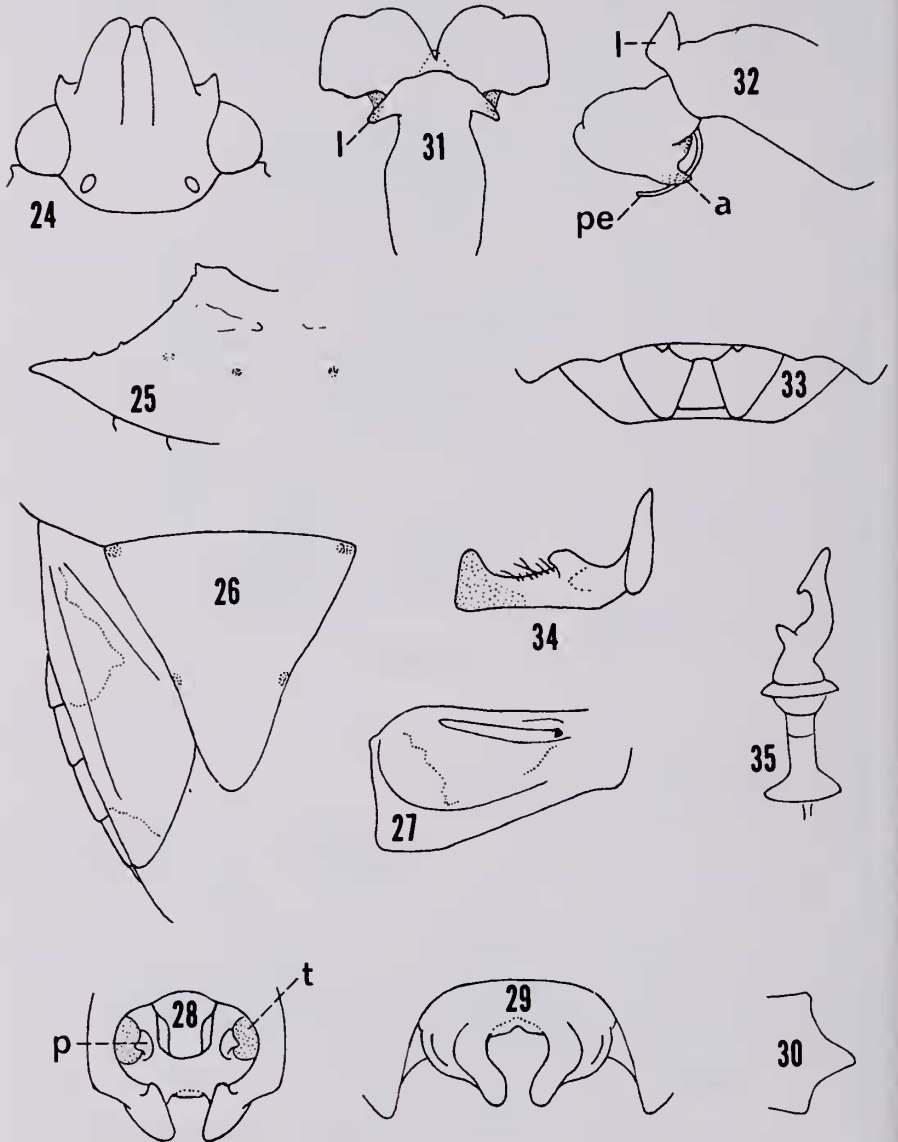
*Mormidea basalis* Walker, 1867:257 (not Walker, 1868:553) Lethierry and Severin, 1893:123 (listed).

*Euschistus basalis*: Distant, 1899:437 (listed); Kirkaldy, 1909:63 (listed).

*Thoreyella pulchra* Jensen-Haarup, 1931:319, 320; Pirán, 1956:32 (record); Pirán, 1962:10, fig. 8 (record, ♀ genital plates); Becker and Grazia-Vieira, 1971:20 (record). NEW SYNONYMY.

Dorsum mostly dark stramineous. Head becoming rufous toward apex;





Figs. 24-35. *O. basalis*. Fig. 24. Head. Fig. 25. Pronotum. Fig. 26. Corium and scutellum. Fig. 27. Metapleuron. Fig. 28. Genital cup, dorsal view; paramere (p); tumescence (t). Fig. 29. Pygophore, ventral view. Fig. 30. Spine at apex of posterior femur. Fig. 31. Theca and related structures, dorsal view; lateral thecal lobe (l). Fig. 32. Same, lateral view; conjunctival appendage (a), lateral thecal lobe (l), penisfilum (pe). Fig. 33. Genital plates. Fig. 34. Right paramere. Fig. 35. Distal part of spermatheca.

punctuation concolorous to fuscous on disk, rufous to dark castaneous toward apex; lateral margins of head often black. Antennae rufous, sometimes with third or third and fourth segments almost entirely light stramineous. Juga surpassing tylus, usually leaving quadrate incision at apex of head, convergent, rarely contiguous, individually and narrowly rounded distally (Fig. 24).

Pronotum turning to light castaneous on humeri; punctuation sometimes entirely dark but usually light castaneous with darker punctures about cicatrices, in broad basal band and along lateral borders. Disk with narrow impunctate median line and 4 blackish spots arranged in shallow posteriorly directed arc; middle spots somewhat farther from each other than from nearest lateral spot (Fig. 25).

Scutellum bearing 4 small dark spots, one in each basal angle and marginal spot at distal end of each frenum (Fig. 26). Pale stramineous wedge near base of each corium extending from costal margin mesad, separated from clavical vein by two rows of dark punctures, impunctate mesad of radial vein, with obscure concolorous punctuation on exocorium; a much smaller subtriangular area of similar or somewhat darker color and with concolorous punctuation usually present at apex of each corium; punctuation on remainder of corium fuscous along veins, elsewhere castaneous to fuscous. Moderately exposed connexiva pale stramineous, immaculate.

Ventral surfaces stramineous, immaculate, concolorously punctate, excepting broad lateral border of pronotum and head colored and punctate similar to adjacent dorsal surfaces. Tibiae not sulcate. Abdominal spine extending between but not surpassing metacoxae.

Length of body without membranes 6.1–7.0 mm. Head 1.6–1.7 mm wide at eyes, 1.3–1.5 mm long; antennal segments 0.3–0.4; 0.2–0.4; 0.9–1.1; 0.7–0.9; 0.8–1.0 mm in length. Pronotum 5.0–6.0 mm wide at humeri, 1.5–1.8 mm long at meson. Scutellum 2.6–3.0 mm wide at base, 2.5–3.0 mm long.

Genital cup bearing large finely shagreened tumescence anterolaterad of each paramere (Fig. 28); opening into genital cup narrowing posteriorly on dorsal surface, then expanding on ventral surface to obovate form truncated anteriorly by membrane, this sometimes missing (Fig. 29), bordered on both dorsal and ventral surfaces by broad sulcus of uneven depth, this usually traversed near anterior limit on dorsal surface by a thin dark ridge. Apex of parameres curved from dorsal view, with concave lateral surface appressed to tumescence of lateral pygophoral wall; parameres unequally expanded at apex, with a tubercle located adjacent to point of articulation (Fig. 34). Lateral lobes of theca elongate, divergent (Figs. 31 and 32). Bifid appendage on each lateral conjunctival lobe pigmented at apices.

Spermathecal bulb sinuous, with diverticulum toward base and another subapically (Fig. 35).

*Types*.—The following specimen is designated as LECTOTYPE: male, with pygophore dissected, labeled (a) Santarem (b) *Mormidea basilis*, Walkers catal. PARALECTOTYPES: male, 2 females with same data. One female bears in addition to a "type" label next to the specimen and a fourth label "Brit. Mus. Type No. Hcm. 1027." However, Walker did not designate a holotype and no lectotype has been designated previously.

*Synonymy*.—The type of *Thoreyella pulchra* is unusual only in having the jugs contiguous rather than convergent before the tylus.

*Distribution*.—Specimens examined came from Brazil: Santarem (type locality), Minas Gerais; Argentina: Corrientes; Uruguay: Salto. The type locality of *Thoreyella pulchra*, "Riacho del Oro," was not identified.

Pirán (1956, 1962) listed this species from the department of Artigas, Uruguay, and Entre Rios, Argentina. Becker and Grazia-Vieira (1971) recorded three female specimens of this species among pentatomids which they examined from Venezuela. This record needs verification since it may apply to the closely related species which follows.

*Odmalea norda* n. sp.

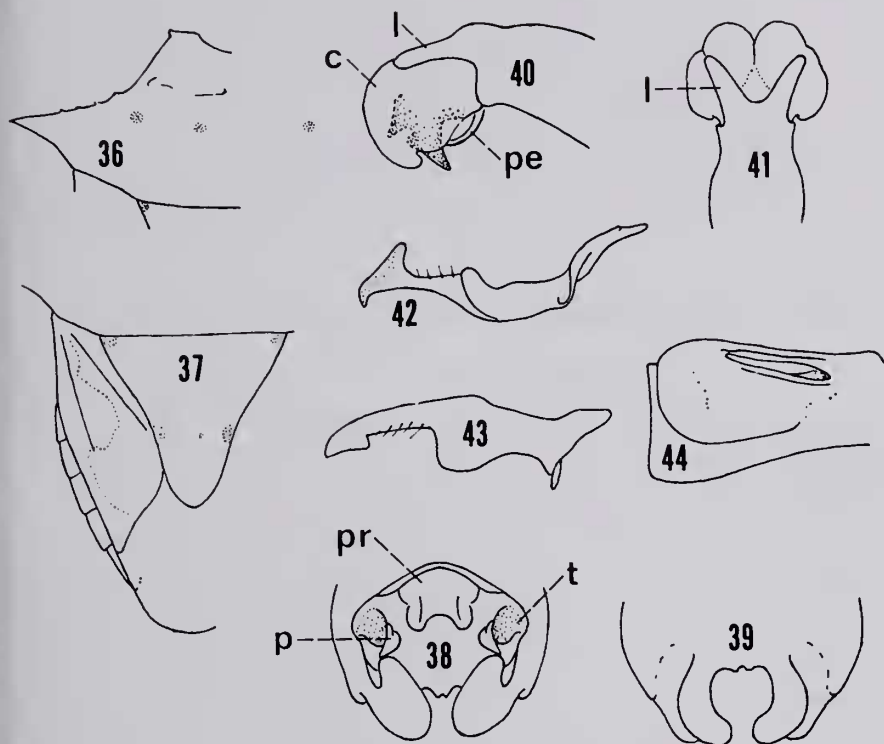
Dorsum mostly dark stramineous. Punctuation on head concolorous to fuscous on disk, black along lateral margins of jugs; antennae brownish yellow. Jugs surpassing tylus, convergent, each jugum narrowly rounded distally.

Pronotum divided along meson by narrow carinate impunctate callous. Four black spots on disk arranged in shallow posteriorly directed arc with middle pair farther from each other than each from nearest lateral spot (Fig. 36). Punctuation fuscous to black in broad basal border, on humeri and along anterolateral margin, elsewhere castaneous. Humeri spinose.

Scutellum with 4 small dark spots, one in each basal angle and marginal spot at distal end of each frenum (Fig. 37). A pale wedge covers basal half of each corium from costal margin mesad, reaching costal vein at base but distally separated from vein by 2 or 3 rows of castaneous punctures; pale area continuing along exocorium, expanding into subtriangular area at costal angle; pale areas concolorously punctate excepting impunctate ivory region between radial and clavical veins occupying distal half of basal wedge; punctuation on remainder of corium dark castaneous. Connexiva moderately exposed, immaculate, concolorous with exocoria.

Ventral surfaces stramineous, thorax a little darker than abdomen, concolorously punctate, excepting broad lateral border of pronotum and head colored and punctate similar to adjacent dorsal surfaces. Tibiae not sulcate. Abdominal spine reaching between but not surpassing metacoxae.

Length of body without membranes 5.8 mm. Head 1.7 mm wide across



Figs. 36–44. *O. norda*. Fig. 36. Pronotum. Fig. 37. Corium and scutellum. Fig. 38. Genital cup, dorsal view; paramere (p), proctiger (pr), tumescence (t). Fig. 39. Pygophore, ventral view. Fig. 40. Theca and related structures, lateral view; conjunctiva (c), lateral thecal lobe (l), penisfilum (pe). Fig. 41. Same, dorsal view; lateral thecal lobes (l). Fig. 42. Right paramere. Fig. 43. Same, rotated 90° toward observer. Fig. 44. Metapleuron.

eyes, 1.3 mm long; antennal segments 0.3; 0.3; 1.0; 0.9; 1.0 mm long. Pronotum 5.0 mm wide at humeri, 1.5 mm long at meson. Scutellum 2.6 mm wide at base, 2.4 mm long.

A large finely shagreened tumescence in genital cup located anterolaterad of paramere and cephalad of deep blind sulcus in margin of genital cup (Fig. 38). Dorsal opening into genital cup narrowing posteriorly to slot; ventral opening expanding from slot, subquadrate with membranous anterior border notched mesially, embraced on each side by broad submarginal depression (Fig. 39). Parameres bilaterally but asymmetrically expanded at apex (Figs. 42 and 43), their concave lateral surface appressed to tumescence on lateral walls of genital cup; parameres much expanded

near point of articulation and at base. Proctiger strongly carinate on each side toward base. Lateral lobes of theca greatly prolonged, divergent (Figs. 40 and 41). Median penal lobes forming cone with curved spur above penisfilum; spur about half as long as penisfilum. Heavily pigmented structure located along mesial surface of conjunction on each side, trifurcate distally with apices acute, the middle one curved mesad.

*Type*.—Holotype, male, labeled: Museum Paris, Venezuela, Coll. E Seguy, 1919. Deposited in the American Museum of Natural History. No paratypes.

*Comment*.—This species closely resembles *O. basalis* and *O. schaefferi* but differs most obviously in the form of the parameres and theca.

*Odmalea schaefferi* (Barber, 1906)

*Dendrocoris (Liotropis) schaefferi* Barber, 1906:262.

*Dendrocoris schaefferi*: Kirkaldy, 1909:151; Banks, 1910:84.

*Odmalea schaefferi*: Bergroth, 1914:438, 439.

Yellowish brown above with faint rufous suffusion on head, humeri and sometimes coria; connexiva and costal border of coria pale stramineous with concolorous punctation; elsewhere on dorsum punctation castaneous to black, a subbasal impunctate area located mesad of radial vein. Apex of head subquadrately incised between narrowly rounded distal ends of juga (Fig. 45). Pronotum divided along midline by narrow impunctate line; 4 small blackish spots on pronotum arranged in shallow posteriorly directed arc, middle pair about half again farther from each other than each from closest lateral spot (Fig. 46). Scutellum with 4 blackish spots, one in each basal angle, one at distal end of each frenum (Fig. 47). Connexiva moderately exposed.

Ventral surfaces pale stramineous with concolorous punctation, excepting broad lateral border of pronotum and head colored and punctured similar to adjacent dorsal surfaces. Legs pale stramineous, none of tibiae sulcate; antennae usually darker. Abdominal spine not surpassing metacoxae.

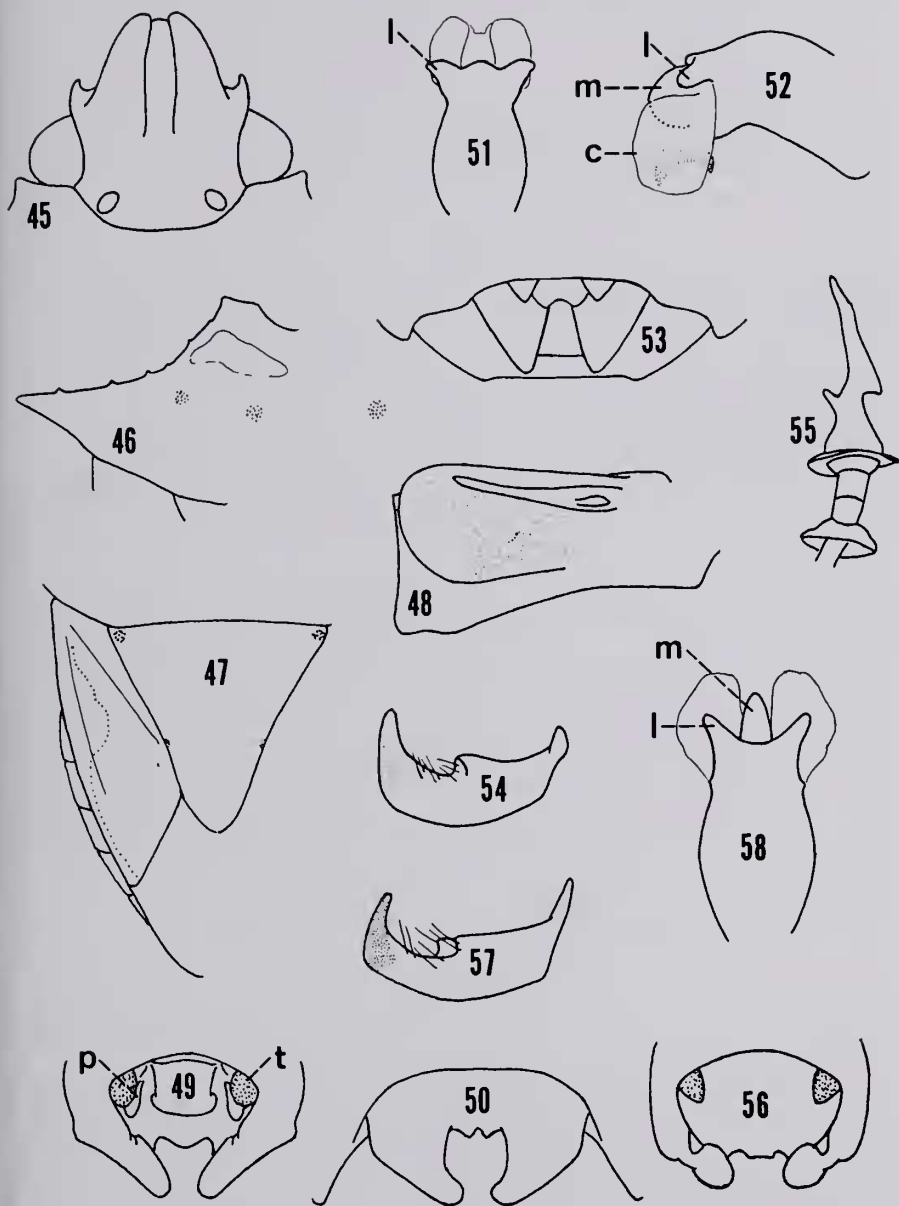
Length of body without membrane 6.9–7.1 mm. Head 1.7–1.9 mm wide

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Figs. 45–55. *O. schaefferi*. Fig. 45. Head. Fig. 46. Pronotum. Fig. 47. Corium and scutellum. Fig. 48. Metapleuron. Fig. 49. Genital cup, dorsal view; paramere (p), tumescence (t). Fig. 50. Pygophore, ventral view. Fig. 51. Theca and related structures, dorsal view; lateral thecal lobe (l). Fig. 52. Same, lateral view; conjunctiva (c), lateral thecal lobe (l), median penal lobe (m). Fig. 53. Genital plates. Fig. 54. Right paramere. Fig. 55. Distal part of spermatheca.





Figs. 56-58. *O. vega*. Fig. 56. Genital cup, dorsal view, parameres and proctiger removed. Fig. 57. Right paramere. Fig. 58. Theca and related structures, dorsal view; lateral thecal lobe (l); median penal lobe (m).

across eyes, 1.4–1.5 mm long; antennal segments 0.4; 0.2–0.4; 1.2–1.5; 1.0–1.3; 1.1 mm long. Pronotum 5.4–6.2 mm wide at humeri, 1.6–2.0 mm long at meson. Scutellum 2.8–3.2 mm wide at base, 2.7–3.3 mm long.

Dorsal opening into genital cup concavely arcuate anteriorly, narrowing rather uniformly to posterior margin, notched midway along lateral margins (Fig. 49). Outer pygophoral walls before this notch broadly depressed. On ventral surface opening into genital cup subquadrate, trisinate basally, enclosed parenthetically by broad depression (Fig. 50). Genital cup bearing large finely reticulated tumescence anterolaterad of parameres. Parameres bent into acute hook distally, moderately expanded near point of articulation, little expanded at base (Fig. 54). Distal margin of theca trisinate from dorsal view (Fig. 51), reflexed ventrally but not dorsally from lateral view (Fig. 52); lateral lobes extending obliquely laterad and a little farther posteriorly than median lobe. Conjunctiva bearing heavily pigmented bifid appendage on mesal surface of each lobe.

Spermatheca with two opposed diverticula toward base (Fig. 55).

*Types*.—Described from 3 males and 5 females, 7 of these identifiable and in the U.S. National Museum. The following specimen is designated LECTOTYPE: male, labeled (a) Brownsville, Tex., V-03, Cat. No. 97 (b) Cotype 42717 (c) type 61089 (d) Type (e) *Dendrocoris schaefferi* Barber, Type. PARALECTOTYPES: male, labels (a) and (b) as on lectotype; male, label (a) as on lectotype, (b) Cotype (c) *Dendrocoris schaefferi* Barb., ♂, Cotype; female, labeled (a) Brownsville, Tex., VI-03, Cat. No. 97, Brooklyn Museum Coll. 1929 (b) Type (c) *Dendrocoris schaefferi* Barber, ♀, Type; female, labeled (a) Brownsville, Tex., V-03 (b) Cotype 42717 (c) *Dendrocoris schaefferi* Barber, Cotype; female, labeled (a) Brownsville, Tex., V-03 (b) Cotype (c) *Dendrocoris schaefferi* Barb., ♀, Cotype; female, labeled (a) Brownsville, Tex., V-03, Cat. No. 97, Brooklyn Museum Coll. 1929 (b) Cotype No. 42717.

*Distribution*.—From southwest Texas to Chiapas, Mexico.

#### *Odmalea vega* n. sp.

Form, size and color of *O. schaefferi* but male genitalia differing in several respects.

Length of body without membranes 6.7 mm. Head 1.7 mm wide across eyes, 1.5 mm long; antennal segments 0.4; 0.2; 1.2; 1.0; 1.0 mm long. Pronotum 5.7 mm wide at humeri, 1.8 mm long at meson. Scutellum 3.1 mm wide at base, 2.8 mm long.

Margin of genital cup directly caudad of parameres depressed, projecting beyond this point as knob, not incised and continued as digitiform projection as in *O. schaefferi* (Fig. 56). Two small tubercles on parameres near point of articulation (Fig. 57).

*Type*.—Holotype, male, labeled: Colombia, Bolivar, 10 mi S Cartagena, 15-XI-1973, D. Engleman, Coll. Deposited in U.S. Nat. Museum, Type no. 72133. No paratypes.

*Distribution*.—Colombia.

*Comment*.—A single female collected near Bogota, Colombia, may be this species. The spermatheca has a bulbous enlargement distad of distal flange, but it lacks the diverticula found in *O. basalis* and *O. schaefferi*.

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### BOOK REVIEW

Insects that feed on trees and shrubs. An illustrated practical guide. Warren T. Johnson and Howard H. Lyon. 464 pp., 212 color illustrations. Comstock Publishing Associates—Cornell University Press, Ithaca and London. 1976. \$35.00.

This book was prepared with the collaboration of Carl S. Koehler of the University of California, Berkeley, of N. E. Johnson of Weyerhaeuser Company, and of J. A. Weidhaas of Virginia Polytechnic Institute. It is an unusual reference work, which combines authoritative descriptions of pests with beautiful full-page color plates. The text is authoritative, readable, concise, and well organized. The book is divided into two parts— insects that feed on conifers, and those that feed on leafed evergreens and deciduous plants. Not only professional entomologists and extension workers, but laymen interested in indoor and outdoor plants will find this treatise very useful. In numerous instances natural enemies of pests that exert biological control have been mentioned. Life cycles, seasonal histories, diagrammatic drawings explaining morphological features, and distribution maps are among the important features of this work. A good subject index is provided. The illustrations are perhaps the most remarkable feature and they enhance the value of this volume. The color photographs have been prepared by Prof. Johnson as well as by Howard H. Lyon, whose professional skill was responsible for many of the striking pictures of living insects. These illustrations are crisp and sharp and the color rendition of high quality. This practical guide belongs into every college and university library as well as every public library. It will also be of considerable interest to home garden owners everywhere. Those who will examine this book will wish to own their personal copies, because of the lasting value of this publication.

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